Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington DC, 20554

In the Matter of	)	
	)	
Review of the Spectrum Sharing Plan Among	)	
Non-Geostationary Satellite Orbit Mobile	)	IB Docket No. 02-364
Satellite Service Systems in the 1.6/2.4 GHz	)	
Bands	)	
	)	
Amendment of Part 2 of the Commission's	)	
Rules to Allocate Spectrum Below 3 GHz for	)	ET Docket No. 00-258
Mobile and Fixed Services to Support the	)	
Introduction of New Advanced Wireless	)	
Services, including Third Generation Wireless	)	
Systems	)	

To: the Commission

NEXTEL COMMUNICATIONS' OPPOSITION TO PETITIONS FOR RECONSIDERATION OF GLOBALSTAR LLC AND SOCIETY OF BROADCAST ENGINEERS, INC.

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SUMMARY

Every petitioner in this proceeding agrees on one thing: the Broadband Radio Service (BRS) is not compatible with the Mobile-Satellite Service (MSS) and the Broadcast Auxiliary Service (BAS). The petitioners' only disagreement is over how to solve the interference that the *MSS Sharing Order* creates.

In its Petition for Reconsideration, Nextel proposed a solution to the problem supported by years of Commission precedent. To resolve the fundamental incompatibility of MSS and BRS, Nextel petitioned to entirely remove the primary MSS allocation from the 2495-2500 MHz band. In its petition for reconsideration, however, Globalstar seeks to reverse the basic Commission finding in favor of sharply limiting MSS operations in the newly assigned BRS-1 band. Globalstar asks that the Commission adopt a series of restrictions that, if implemented, would all but preclude BRS deployment in the reassigned BRS-1 spectrum. Rather than reverse course, the Commission should take the analysis it adopted in the *MSS Sharing Order* to its logical conclusion. The Commission should deny the Globalstar Petition in part, remove the primary MSS allocation from the 2495-2500 MHz band, and uphold the BRS-1 licensees' rights to comparable replacement spectrum.

To resolve the fundamental interference problem between BAS and MSS, Nextel proposes a negotiated solution. In its petition for reconsideration in this docket, the Society of Broadcast Engineers (SBE) has noted that certain economies of scale will occur if the same operator that provides the equipment necessary to transition BAS Channels A1-A7 to a digital format also provides the equipment necessary to transition BAS Channels A8-A10 to a digital format.

Nextel agrees. If Nextel accepts the *800 MHz Report and Order*, Nextel will digitize and repack BAS Channels A1-A7 and, as a result, will be in a unique position to voluntarily assist the vast majority of BAS licensees in transitioning BAS Channels A8-A10 to a more spectrum-efficient, digital format. Nextel could – with the Commission's approval and, again, subject to Nextel's acceptance of the *800 MHz Report and Order* – significantly reduce the time and transaction costs necessary to transition BAS Channels A8-A10 to a compressed, digital format in a lower portion of the 2450-2500 MHz band.

While Nextel and SBE continue to discuss ways to transition BAS Channels A8, A9, and A10, Nextel must ask that the Commission deny the SBE Petition to the extent it seeks to impose BAS relocation costs on BRS-1 licensees generally and Nextel in particular. The BRS-1 licensees are entitled to receive comparable spectrum because the Commission involuntarily relocated them to make way for future Advanced Wireless Services (AWS) licensees. Unless BAS and other incumbent licensees are removed from the 2495-2500 MHz band, however, the new BRS-1 replacement spectrum is not comparable. Although Nextel may prove able to voluntarily assist in the transition of BAS Channels A8, A9, A10, the new occupants of the former BRS-1 spectrum at 2150-2162 MHz must pay all of the costs associated with the Commission's decision to move BRS-1 to the 2496-2502 MHz band.

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I. INTRODUCTION

The five petitions for reconsideration against the Commission's *MSS Sharing Order*[1] agree upon one thing: the numerous services that the Commission has attempted to shoehorn into the 2495-2500 MHz band simply cannot share the same spectrum. As every petitioner has demonstrated, terrestrial mobile and fixed operations, such as channel one of the Broadband Radio Service (BRS-1), cannot share with incumbent operators in the 2495-2500 MHz band, including the Mobile-Satellite Service (MSS),

[1] *Review of the Spectrum Sharing Plan Among Non-Geostationary Satellite Orbit Mobile Satellite Service Systems in the 1.6/2.4 GHz Bands, Amendment of Part 2 of the Commission's Rules*, 19 FCC Rcd 13356 (2004) (*MSS Sharing Order*), *available at* <http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-135A1.doc>.

Industrial, Scientific and Medical (ISM) devices, and the Broadcast Auxiliary Service (BAS).[2] The petitioners' unanimity on this point should come as no surprise. The Commission reached the same conclusion itself less than one year ago.[3]

With all five petitioners uniformly opposed to band sharing, the only real difference comes when the petitioners address which party should bear the burden of making the band useable for the others. Consistent with section 1.429(f) of the Commission's rules, Nextel Communications, Inc. (Nextel) joins with Sprint Corporation (Sprint) and the Wireless Communications Association International (WCA) in opposing petitions from Globalstar LLC (Globalstar) and the Society of Broadcast Engineers, Inc. (SBE) that would impose extraordinary costs and limitations on BRS-1 licensees.[4]

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[2] *See Petition for Reconsideration of the Society of Broadcast Engineers, Inc.*, ET Docket No. 00-258, 2 (Sept. 8, 2004) (*SBE Petition*) ("no amount of frequency coordination could ever make co-channel TV BAS and ATC possible in the same operating area"); *Petition for Reconsideration of Globalstar LLC,* , ET Docket No. 00-258, 15 (Sept. 8, 2004)(*Globalstar Petition*)("Globalstar and BRS stations cannot operate co-frequency, co-coverage"); *Petition for Reconsideration of Sprint Corporation*, ET Docket No. 00-258, 2 (Sept. 8, 2004) (*Sprint Petition*) (stating that separate RF services generally cannot transmit within the same bandwidth at the same time in the same location without causing mutual interference and urging the Commission to adopt restrictions on MSS, BAS, and ISM operations in the 2495-2500 MHz band); *Petition for Reconsideration of Nextel Communications*, ET Docket No. 00-258, 2 (Sept. 8, 2004) (*Nextel Petition*)("the Commission erred in concluding . . . that sharing is possible among the numerous services that the Commission has allowed to remain in the 2495-2500 MHz band"); *Petition for Reconsideration of the Wireless Communications Association, Inc.*, ET Docket No. 00-258, 2 (Sept. 8, 2004) (*WCA Petition*) ("the Commission has erroneously concluded that terrestrial wireless broadband service providers, and particularly relocated BRS channel 1 licensees, can make viable use of the 2496-2500 MHz band while sharing that spectrum with MSS satellite downlinks, a variety of licensed BAS and other terrestrial services and ISM devices authorized to operate without any limit on in-band power levels.").

[3] *See, e.g., Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands, Report and Order and Notice of Proposed Rulemaking*, 18 FCC Rcd 1962 (2003) (*MSS ATC Order*), *available at* <http://hraunfoss.fcc.gov/edocs_ public/attachmatch/FCC-03-15A1.doc>.

[4] *See* 47 C.F.R. § 1.429(f).

Rather than punish the dislocated BRS-1 licensees with arbitrary limits and costly mitigation measures, the Commission should provide BRS-1 licensees with comparable replacement spectrum – as it intended to do in this proceeding – by eliminating the inefficient MSS allocation from the 2495-2500 MHz band.

To address the likely interference between the broadcast auxiliary service (BAS) and BRS-1, Nextel proposes a negotiated solution. Although many important details remain unresolved, Nextel may prove able to voluntarily digitize[5] all but a handful of radios operating on BAS Channels A8, A9, and A10 at potentially no additional expense to any licensee, subject to Nextel's acceptance of the *800 MHz Report and Order*.[6] Following the conclusion of discussions with SBE and subject to Nextel's acceptance of the *800 MHz Report and Order*, Nextel may also prove able to offer BAS licensees affected by the *800 MHz Report and Order* the opportunity to move BAS Channel A10 away from the spectrum that BRS-1 will use at potentially no expense to BAS, Nextel, MSS, or any other licensee.

While an eventual agreement between Nextel and SBE would represent a major, cost-effective step forward in eliminating interference between BAS and BRS-1,

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[5] We use the term "digitize" here to mean the process of using digital compression techniques to narrow the BAS channels from approximately 17 MHz to a uniform bandwidth 12 MHz.

[6] *See Improving Public Safety Communications in the 800 MHz Band*, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order, WT Docket 02-55, FCC 04-168, __ FCC Rcd __ (rel. Aug. 6, 2004) (*800 MHz Report and Order*), *available at* <http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-168A1.pdf>. If Nextel does not accept the terms and conditions of the *800 MHz Report and Order*, Nextel would not assist in the relocation of BAS Channels A8, A9, and A10. Under those circumstances, the AWS auction winners would have to pay *all* expenses associated with providing the BAS licensees with comparable replacement spectrum.

complete implementation of the BAS relocation plan would require an additional step involving a change to Part 74 of the Commission's rules.[7]

Under no circumstances, however, should any BRS-1 licensee be forced to pay for their own involuntary relocation out of the 2150-2156 MHz band. Because SBE appears to seek such a result, the Commission must deny the *SBE Petition.* Consistent with numerous Commission decisions governing the rights of dislocated incumbent licensees and as explained in the *Nextel Petition*, the Commission should hold that any expenses necessary to complete the BAS relocation be borne by the Advanced Wireless Services (AWS) auction winners who will occupy the spectrum that BRS-1 licensees used to hold.[8]

II. THE COMMISSION SHOULD REJECT GLOBALSTAR'S PROPOSAL TO IMPOSE EXTRAORDINARY LIMITATIONS ON THE NEWLY ESTABLISHED BRS-1 OPERATIONS AT 2495-2500 MHz.

Globalstar proposes that the Commission impose a series of one-sided operational constraints on BRS 1 that would offer no effective limit on Globalstar's MSS operations. Globalstar, which holds the only remaining CDMA license out of the four CDMA MSS licenses originally granted in the Big LEO band, proposes to: (i) limit BRS to the top 35 markets; (ii) limit BRS base stations power to no more than 600 watts EIRP; and (iii) limit out-of-band emissions from BRS-1 users for 99 % of the time to an aggregate not to

[7] Currently, TV BAS Channel A8 is assigned to the 2450-2467 MHz band. TV BAS Channel A9 is assigned to the 2467–2483.5 MHz band. And TV BAS Channel A10 is assigned to the 2483.5-2500 MHz band. As described below, changing the center channels of BAS Channels A8, A9, and A10 would require the Commission to amend Part 74 of its rules. *See* 47 C.F.R. § 74.602.

[8] *See Nextel Petition* at 2-3.

exceed –209 dBW/Hz at any point outside of the boundaries of the 35 MSAs in the 2483.5-2500 MHz band.[9]

If adopted, Globalstar's restrictions on BRS-1 licensees would impose costly, unworkable restrictions to operating BRS-1. Indeed, the proposed restrictions are so severe that they would deprive the BRS-1 licenses at 2495-2500 of virtually all economic value. Failing to provide BRS-1 licensees with comparable replacement spectrum would not only violate constitutional protections against uncompensated government takings,[10] but also would constitute arbitrary and capricious decision-making in violation of the Administrative Procedure Act.[11]

The Commission must "examine the relevant data and articulate a satisfactory explanation" for its decisions, including a "rational connection between the facts found and the choice made."[12] Nothing in the record, however, supports Globalstar's proposed restrictions. To the contrary, these restrictions directly contradict the Commission's settled policy of ensuring that relocating incumbent licensees are left "no worse off than if relocation were not required."[13] In addition, Globalstar's proposed restrictions on BRS-1 would undermine the integrity of Commission auctions by ignoring the legitimate reliance auction winners placed on the Commission's representations regarding the use of

[9] *Globalstar Petition* at 12.

[10] Nextel Petition at 3 n.7.

[11] 5 U.S.C. § 706.

[12] *Motor Vehicle Manufacturers Association of the United States v. State Farm Mutual Automobile Insur. Co.*, 463 U.S. 29, 43 (1983)

[13] *Amendment to the Commission's Rules Regarding a Plan for Sharing Costs of Microwave Relocation*, 11 FCC Rcd 8825, 8843 (1996).

BRS spectrum.[14] Therefore, the Commission should reject Globalstar's petition in part and instead adopt rules that maximize the efficient use of the spectrum consistent with the Commission's statutory mandate[15] and its goals in the BRS proceeding.[16]

A. Globalstar's Proposed Limitations on BRS-1 Would Deprive the Licensees of All Economic Value in their Spectrum.

Proposed MSA Limitation. Globalstar's proposal to limit BRS-1 operations to only the top 35 Metropolitan Statistical Areas (MSAs) in the nation would deprive hundreds of licensees of property without just compensation. By way of background, incumbent BRS-1 and BRS-2 licensees that had obtained licenses before the 1996 MMDS auction received site-specific authorizations with 35-mile protected service areas. After 1996, the Commission auctioned the remaining MMDS channels on a Basic Trading Area (BTA) basis and, as a result, only the high bidder for a particular BTA could apply for vacant BRS-1 and BRS-2 channels. If the Commission were to adopt Globalstar's proposal, all site-specific BRS-1 licensees and approximately 458 BTA auction winners located outside of the top 35 MSAs would be prohibited from using their BRS-1 licenses. Stated differently, Globalstar's proposal would deprive hundreds of

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[14] *Nextel Petition* at 3 n.7.

[15] *See, e.g.*, 47 U.S.C. § 151 (purpose of the Communications Act is "to make available, so far as possible, … a rapid, efficient … radio communication service"); 47 U.S.C. § 158(a) ("It shall be the policy of the United States to encourage the provision of new technologies and services to the public"); 47 U.S.C. § 303 (enumerating Commission powers to regulate spectrum use to promote the public interest).

[16] *See Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, FCC 04-135, WT 03-66, 19 FCC Rcd 14165, ¶ 1 (2004) (*BRS/EBS Realignment Order*) (goal of restructuring of BRS band is to provide licensees "with greatly enhanced flexibility in order to encourage the highest and best use of spectrum domestically and internationally, and the growth and rapid deployment of innovative and efficient communications technologies and services").

auction winners and other BRS-1 licensees from using the spectrum rights that they received from the Commission. Revoking rights previously granted to licensees is, of course, fundamentally unfair to the dislocated BRS auction winners and subsequent purchasers for value of those rights.[17] The Commission cannot constitutionally deprive the dislocated BRS-1 licensees of all economic value in their licenses without compensation.[18]

Even if Globalstar's proposal were not manifestly unjust to the licenses of the BRS-1 spectrum, the long list of MSAs in which Globalstar seeks to prohibit BRS-1 from providing service would all but preclude the use of BRS-1 for commercial deployment of wireless broadband service to the public. Globalstar, for example, proposes to preclude BRS-1 from operating in the major metropolitan areas surrounding cities such as Fort Lauderdale, FL (pop. 1,623,018); Indianapolis, IN (pop. 1,607,486); San Antonio, TX (pop. 1,592,383); Las Vegas, NV (pop. 1,563,282); Columbus, OH (pop. 1,540,157); and many, many more.[19] Preventing entrepreneurs from reaching these major population centers thwarts the Commission's goal of "providing all Americans with access to

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[17] *See Nextel Petition* at 3 n.7.

[18] *Id.*; *see also, e.g., Lucas v. South Carolina Coastal Council*, 505 U.S. 1003 (1992) ("when the owner of real property has been called upon to sacrifice all economically beneficial uses in the name of the common good, that is, to leave his property economically idle, he has suffered a taking").

[19] Other metropolitan excluded from the list of MSAs in which Globalstar would permit BRS-1 to operate include Milwaukee, WI; Charlotte, NC; New Orleans, LA; Salt Lake City, UT; Austin, TX; Nashville, TN; and many other urban areas with populations of more than or nearly 1 million. *See* Federal Communications Commission, Wireless Telecommunications Bureau, *The 100 Largest Metropolitan Statistical Areas (MSAs) and Their Populations Based on Year 2000 Census Data, available at* <http://wireless.fcc.gov/wlnp/documents/top100.pdf>.

ubiquitous wireless broadband connections, regardless of their location."[20] Just as important, adopting these restrictions would upend the business case for any BRS-1 licensee that hopes to offer customers a reliable wireless broadband service offering in this spectrum. Operators would have to bear the burden of greatly decreased economies of scale while simultaneously confronting increased costs from servicing the patchwork quilt of BRS-1 stations that Globalstar's proposal would create. If Globalstar's proposal were adopted, licensees such as Nextel would be unable to economically deploy a wireless broadband radio service in the BRS-1 spectrum. Therefore, the Commission should reject Globalstar's proposal.

Proposed BRS-1 EIRP Limit of 600 Watts. Under the Commission's new rules, BRS base stations may operate at up to 2000 watts peak EIRP.[21] Globalstar proposes that the Commission sharply limit BRS-1 base station power in the band to no more than 600 watts peak EIRP. Globalstar's proposed transmit-power reduction from 2000 watts to 600 watts translates to a 5 dB reduction in the BRS-1 base stations' power levels. Even with a 2000 watt EIRP power limit, BRS-1 licensees will likely suffer harmful interference from Globalstar's satellite system, which may continue to operate at the generous International Telecommunication Union power flux density (PFD) standard of -144 dBm^2/4 kHz. If the Commission were to reduce the BRS-1 power limit by 5 dB to 600 watts, an even larger percentage of BRS-1 transmissions could not overcome interference from satellite systems and would fail to complete links to BRS-1 subscribers.

Compensating for the 5 dB reduction would require BRS-1 licensees to substantially increase the number of base stations in the band. As the Commission well

[20] *BRS/EBS Realignment Order*, 19 FCC Rcd at ¶ 1.

[21] 47 C.F.R. § 27.50(h)(1) (effective date pending Federal Register publication).

knows, however, the number of base stations necessary to serve customers has a direct and significant impact both on the total capital expenditures (CAPEX) and ongoing operational expenses (OPEX) necessary to provide wireless broadband service to consumers. The CAPEX requirements of offering BRS in this band are already substantial because BRS operations at 2.5 GHz travel shorter distances and are more susceptible to fading conditions relative to traditional CMRS operating at lower frequencies. Increasing the number of base stations even further would all but eliminate the business case for commercial BRS-1 deployment.[22]

Proposed Out-of-band Emissions Limit of –209 dBW/Hz. Globalstar's proposal to impose a –209 dBW/Hz of protection outside of the top 35 MSA borders from BRS users is unprecedented.[23] Nextel is not aware of any other band that imposes a comparable limit on mobile signal strength.[24] Although the Commission has adopted a co-channel limit of 47 dBuV/m (or -98 dBm/5.5 MHz) for *base station* signal strength, the Commission declined to impose a co-channel signal-strength limit for mobile users of BRS-1. Compared to protections that the Commission has adopted for other, similarly situated services, Globalstar's claim to such extraordinary interference protection from the dislocated BRS-1 licensees simply makes no sense.

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[22] BRS-1 licensees incur high costs to locate, approve, build, connect, and maintain transmission towers. In this way, every additional tower required would impose significant CAPEX and OPEX expenses on BRS-1 licensees.

[23] Specifically, Globalstar proposes that the Commission limit BRS-1 users' out-of-band emissions for 99 % of the time to an aggregate not to exceed –209 dBW/Hz (or -115.6 dBm/5.5MHz) at any point outside of the boundaries of the top 35 MSAs. *Globalstar Petition* at 12.

[24] The standard for user devices is the standard FCC emissions mask of –13 dBm/MHz, which represents a substantially more forgiving standard than the level of protection that Globalstar seeks.

B. Globalstar's Attempt to Constrain BRS-1 Contradicts the Commission's Intent in Choosing to Locate BRS-1 in the 2495-2500 MHz Band.

In the *BRS/EBS Realignment Order*, which was adopted simultaneously with the *MSS Sharing Order* that Globalstar challenges, the Commission sought to permit only limited and highly restricted MSS operations in the 2495-2500 MHz band once BRS-1 operations were deployed. According to the Commission, "MSS can make use of these channels [in the 2495-2500 MHz band] *prior to deployment* of the new BRS operations in the band, and in geographic areas, such as remote areas where new terrestrial services are not likely to deploy."[25] In other words, the Commission envisioned MSS remaining in the band only until BRS licensees deployed facilities in the 2496-2500 MHz band and perhaps persisting only in a few remote areas where BRS-1 service providers have no intention of offering services in the near-term future.

As described in its petition for reconsideration, Nextel believes that even a limited MSS presence in the 2495-2500 MHz band is likely to cause harmful interference to BRS-1 operations.[26] Indeed, citing the fundamental incompatibility of MSS and BRS operations, Nextel has petitioned to remove the primary MSS allocation from the 2495-2500 MHz band entirely.[27] Globalstar, however, seeks to reverse the basic Commission finding in favor of sharply limiting MSS operations in the newly assigned BRS-1 band. Globalstar demands that the Commission to adopt a series of restrictions that, if implemented, would all but preclude BRS deployment in the reassigned BRS-1 spectrum.

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[25] *BRS/EBS Realignment Order*, 19 FCC Rcd at ¶ 27 n.67 (2004) (emphasis added).

[26] *See, e.g., Petition for Reconsideration of Nextel Communications*, ET Docket No. 00-258, 4 (Sept. 8, 2004) (*Nextel Petition*).

[27] *See, e.g., Nextel Petition* at 13 ("The Commission should eliminate the MSS allocation from the 2495-2500 MHz band").

The Commission should not accede to Globalstar's petition. Instead, the Commission should take the analysis of its *MSS Sharing Order* to its logical conclusion and remove MSS from the band. The Commission should recognize that just one MSS operator in the Big LEO MSS S-band does not require the same amount of bandwidth that the Commission originally set aside for four CDMA operators. Thus, the Commission should remove the primary MSS allocation from the 2495-2500 MHz band as redundant in light of the limited demand for MSS spectrum.

III. NEXTEL AND SBE MAY VOLUNTARILY AGREE TO DIGITIZE BAS CHANNELS A8-A10 AND, AT THE BAS LICENSEES' OPTION, TO MOVE BAS CHANNEL A10 BELOW 2486 MHz.

Consistent with a long line of Commission decisions stretching back to the original *Emerging Technologies Order*, the burden for any expenses associated with BAS rebanding must rest with the AWS auction winners in the 2150-2156 MHz band that will soon occupy a portion of the spectrum that BRS-1 licensees have been forced to vacate.[28]

Following adoption of the *800 MHz Report and Order*, however, Nextel is in a unique position to voluntarily assist the vast majority of BAS licensees in transitioning BAS Channels A8-A10 to a more spectrum-efficient, digital format that would largely eliminate the potential for interference between BAS Channel A10 and BRS-1. As explained below, Nextel can – with the Commission's approval and subject to Nextel's acceptance of the *800 MHz Report and Order* – significantly reduce the time and transaction costs necessary to transitioning BAS Channels A8-A10 to a compressed, digital format in a lower portion of the band.

[28] *See generally, e.g., Emerging Technologies Order*, 7 FCC Rcd at 6886.

Background. Although Nextel has no legal obligation to assist in the transition of BAS A8-A10 to a new location, Nextel – should it accept the terms and conditions of the Commission's *800 MHz Report and Order* – will, in fact, be providing many of the same licensees with new BAS equipment for other BAS channels. Under the terms of the *800 MHz Report and Order*, the Commission required Nextel to retune Channels A1-A7 BAS equipment to a 12 megahertz bandwidth as a condition of Nextel's receiving replacement spectrum in the 1.9 GHz band. As a result, the equipment of all but approximately one percent of fixed and mobile BAS Channel A10 licenses will be retuned or replaced as part of the A1-A7 BAS relocation process.[29]

During the course of the 800 MHz public safety proceeding, Nextel and representatives of the nations' broadcast trade associations worked to develop an efficient BAS relocation plan that would meet the operational needs of BAS licensees. This cooperative relationship led to a watershed agreement among the parties that solved the longstanding problem of how to digitize and repack the analog TV BAS Channels A1-A7 that span the 1990-2110 MHz band.[30] Under the terms of a joint agreement among Nextel, the National Association of Broadcasters, and the Association for Maximum Service Television (MSTV) filed in the 800 MHz public safety proceeding, Nextel agreed to fund the cost of relocating BAS users in the 1990-2025 MHz band. In exchange, Nextel would receive: (i) replacement spectrum in the 1910-1915/1990-1995 MHz band to partially compensate it for its contribution the 800 MHz band reconfiguration; and (ii) full credit for its payment of the cost of relocation BAS Channels A1-A7 in the then-

[29] The one percent estimate is based on data retrieved from the FCC's Universal Licensing Service (ULS) database.

[30] *See 800 MHz Report and Order*, __ FCC Rcd at ¶ 251.

pending 800 MHz public safety proceeding.[31] In its *800 MHz Report and Order*, the Commission endorsed the parties' joint proposal.[32]

Repacking BAS Channels A1-A7 from the 1990-2110 MHz band into the 2025-2110 MHz band involves using digital compression techniques to narrow the BAS channels from approximately 17 MHz to a uniform bandwidth of 12 MHz and then retuning those new digital channels to a higher portion of the present 2 GHz BAS band.[33] In its petition, SBE correctly notes that much of the new equipment deployed as part of the BAS Channel A1-A7 project will also be capable of operating on BAS Channels A8, A9, and A10. If Nextel accepts the terms of the *800 MHz Report and Order*, Nextel would have already assumed the burden of retrofitting much of the hardware used in transmitting on BAS Channels A8, A9, and A10. In its petition, therefore, SBE concludes that it "makes sense" to modify the bandwidth and center frequencies of all ten channels in one process.[34]

Nextel agrees with SBE that certain economies of scale will occur if the same operator that provides the equipment necessary to transition Channels A1-A7 to a digital format also provides the equipment necessary to transition Channels A8-A10 to a digital format. Most licensees of BAS Channels A8, A9, and A10 are also licensees of BAS

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[31] SBE also endorsed this joint filing. *See Comments of the Society of Broadcast Engineers, Inc.*, WT Docket 02-55 (filed, May 7, 2004), *available at* <http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516183830> ("SBE is pleased to lend its support to the Joint Proposed BAS Relocation Plan").

[32] *See 800 MHz Report and Order*, __ FCC Rcd at ¶¶ 251-263.

[33] Channel A8 has a bandwidth of 17 MHz centered at 2458.5 MHz, channel A9 has a bandwidth of 16.5 MHz centered at 2475.25 MHz, and channel A10 has a bandwidth of 16.5 MHz centered at 2491.75 MHz. Unless context requires otherwise, the channel bandwidth of BAS Channels A8, A9, and A10 is referred to as 17 MHz.

[34] *SBE Petition* at 6.

Channels A1-A7 and, in many cases, a BAS licensee will use the same equipment for all ten BAS channels.

Nextel Proposal. Nextel proposes to digitize the BAS Channels A8, A9, and A10 of those licensees affected by the *800 MHz Report and Order* (the "Affected BAS Licensees") at the same time it transitions BAS Channels A1-A7, provided that Nextel accepts the terms of the *800 MHz Report and Order*.[35] Subject to the same proviso, Nextel could simultaneously offer the Affected BAS Licensees the opportunity to relocate BAS Channel A10 from their current location in the 2483.5-2500 MHz band to a new position in the 2483.5-2495.5 MHz band.[36] Additionally, Nextel could provide the Affected BAS Licensees with the opportunity to continue to operate BAS Channel A10 with a 16.5 MHz bandwidth at the original center channel frequency.[37] The nature of the technology would enable Nextel to undertake these actions at essentially no expense to itself, the other BRS-1 licensees, the AWS licensees, or other beneficiaries of the move.

A chart of stage one of the proposed transition plan appears below. As indicated in the chart, Nextel would reduce the size of the analog BAS Channels A8, A9, and A10 from 17 MHz to 12 MHz. In addition, the relatively small number of non-BAS spectrum

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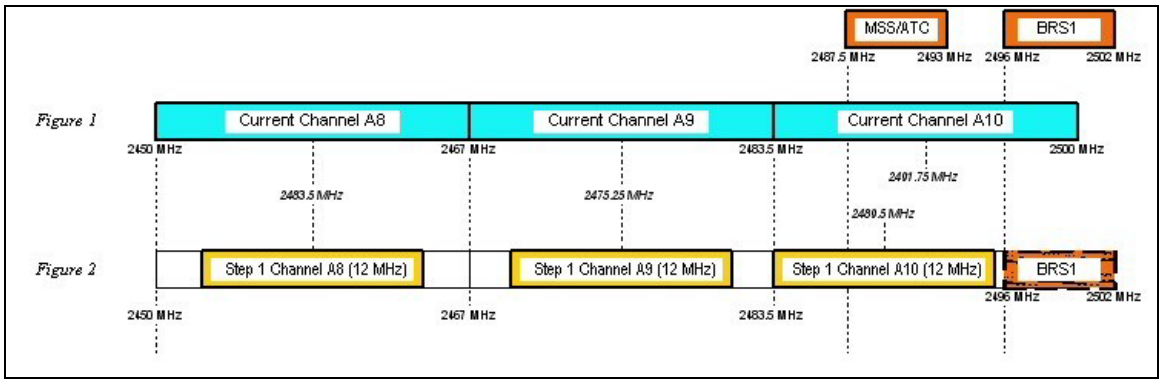
[35] Specifically, Nextel would voluntarily equip any radios that Nextel upgrades to digital operation in the BAS A1-A7 relocation pursuant to the terms of the 800 MHz Report and Order to allow for digital operation on Channels A8, A9, and A10. Nextel would maintain the current channel center frequencies for A8 and A9, at 2458.5 MHz and 2475.25 MHz, respectively.

[36] As discussed above, Nextel could provide the equipment that will allow BAS licensees to operate with a 12 MHz bandwidth on Channel A10; however, Nextel's proposal to accelerate the transition would not require BAS licensees on Channel A10 to operate in the smaller bandwidth.

[37] While Nextel hopes that most Affected BAS Licensees would elect to use a 12 MHz channel width at a new, lower center channel frequency, an Affected BAS License would be under no obligation to do so.



moves that are necessary to free additional spectrum in which to relocate BAS Channel A10 at a new center channel frequency would permit Nextel to work with BAS licensees to immediately relocate the compressed, digitized BAS Channels A10 below the BRS-1 allocation.[38] Nextel's voluntary acceleration of the BAS transition for Channels A8, A9, and A10 for the Affected BAS Licensees would promote regulatory economy by capitalizing on the economies of scale that only Nextel can realize as it transitions the other seven BAS channels consistent with the terms of the *800 MHz Report and Order*.

IV. ADDITIONAL EXPENSES BEYOND DIGITIZING BAS CHANNELS A8, A9, AND A10 SHOULD BE BORNE BY THE EVENTUAL ADVANCED WIRELESS SERVICES AUCTION WINNERS IN THE FORMER BRS-1 SPECTRUM AT 2150-2156 MHz.

Complete transition of the BAS Channels A8, A9, and A10 will require additional time and money and, consistent with Commission precedent, these burdens should be borne by the eventual AWS auction winners in the former BRS-1 spectrum at 2150-2156 MHz. If there were no other licensees of the BAS Channels A8, A9, and A10 spectrum, it might be feasible to modify all ten BAS channels simultaneously. Unfortunately, however, a great many non-BAS licensees exist within the 2450-2500 MHz band. As a

[38] Based on the current discussions with SBE, Nextel would relocate the center channel frequency for Channel A10 to 2489.5 MHz. As seen in the chart, relocating the center channel frequency at this point would move the channel mask to the lower edge of the current channel mask and outside of the spectrum allocated for BRS-1.

result, BAS licensees cannot simply change frequencies and bandwidth on BAS Channels A8 and A9 without creating interference potential to the non-BAS licensees.

Coordinating the non-BAS licensees with the repacked digital Channels A8 and A9 will require considerable time. In the 2495-2500 MHz band alone, for example, there are 108 grandfathered primary terrestrial licenses including: 1 local television transmission license, 12 point-to-point microwave, private-industrial business licenses, 4 conventional public safety pool licenses, 12 TV intercity relay licenses, 78 TV pickup licenses, and 1 TV translator relay license.[39] Although exact statistics are not readily available for the remainder of the 2450-2500 MHz band, Nextel understands that a great many more non-BAS licensees exist in the 2450-2495 MHz band, including public safety operations.[40] To successfully repack the newly compressed digital BAS channels A8 and A9, all of the non-BAS facilities would need to be taken into account.

The BAS relocation effort for BAS Channels A1-A7 envisioned under the *800 MHz Report and Order* is already one of the most challenging and extensive relocation projects that any licensee in the history of the Commission has ever required. Concluding a nationwide retuning of BAS Channels A1-A7 within thirty months, as the *800 MHz Report and Order* directs, will require BAS equipment manufacturers to increase manufacturing capacity substantially and will strain television news van integrators, tower riggers, and television station engineering personnel, who already face severe resource constraints due to the burdens of the nation's conversion to digital

[39] *MSS Sharing Order*, 19 FCC Rcd at ¶26.

[40] Based on a FCC ULS database query, there are more than 500 microwave and land mobile licensees in BAS Channels A8 and A9. It is Nextel's understanding that the ULS database may not contain comprehensive information about all of the microwave and land mobile licensees currently located in the 2450-2495 MHz band.

television. Further complicating the relocation of BAS Channels A1-A7 by requiring the simultaneous transition of the heavily encumbered channels A8 and A9 would contravene the public interest.

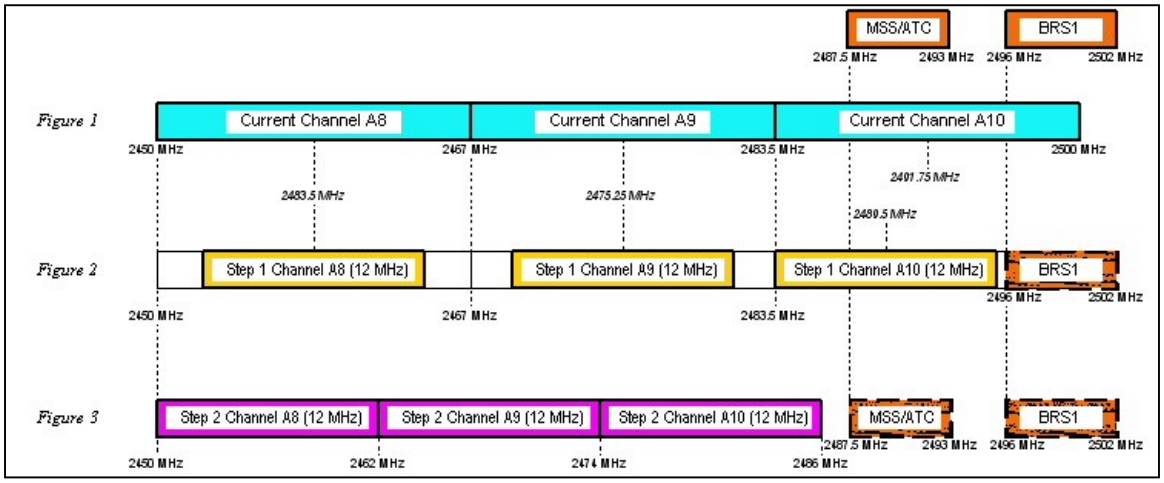
Nextel, therefore, recommends that the BAS transition for Channels A8, A9, and A10 proceed in two distinct steps:

First, as described above, Nextel would voluntarily equip any radios that Nextel upgrades to digital operation in the BAS A1-A7 relocation pursuant to the terms of the *800 MHz Report and Order* to allow for digital operation on Channels A8, A9, and A10. If a BAS licensee elects to use the narrower, 12 megahertz bandwidth at Channel A10 rather than the wider, 16.5 megahertz bandwidth used by the analog equipment, Nextel-provided equipment could be configured to shift Channel A10 down to a new center channel frequency located below the BRS-1 band should the BAS licensee elect to do so.

Second, the Commission should initiate a rulemaking proceeding to arrive at a comprehensive solution for the remaining BAS Channels and licensees. The Commission should commence a rulemaking based in large part on the *SBE Petition*'s technical proposal to repack BAS Channels A8, A9, and A10. The notice of proposed rulemaking should clearly identify the responsibility that the AWS licensees will bear for the expense of repacking BAS Channels A8, A9, and A10. The notice should seek broad AWS industry comment on how best to make these operations contiguous beginning at 2450 MHz band edge. Among other things, the Commission should seek comment on whether to amend Section 74.602 of its rules to establish new center channels for BAS A8, A9, and A10 at 2456 MHz, 2468 MHz, and 2480 MHz, respectively. Potential AWS auction winners at 2150-2156 MHz, who will have to bear all costs associated with

relocating BAS A8, A9, and A10, should be specifically encouraged to participate in the rulemaking proceeding.

The current band plan and the proposed two-stage transition are depicted below. As indicated in Figure 1 in the chart, BAS Channels A8-A10 are currently located in the 2450- 2500 MHz band. If implemented, Nextel's voluntary relocation proposal would



largely achieve the results depicted in Figure 2. To achieve the resolution envisioned in Figure 3, however, the Commission will need to clarify the financial obligations of the AWS licensees who will benefit from having the BAS bands above 2486 MHz cleared of BAS operations. As seen in Figure 3, repacking BAS Channels A8-A10 would relieve possible interference between BAS and BRS in the 2495-2500 MHz band and between BAS and MSS ATC licenses in the 2487.5- 2493 MHz band.

By combining Nextel's contingent proposal to transition BAS Channels A8, A9, and A10 to digital format with a rulemaking proceeding designed to further enhance the spectrum efficiency of the BAS channels, the Commission can enable all parties to operate in the band quickly and without undermining the right of both BAS and BRS-1 licensees to comparable replacement spectrum.

V. CONCLUSION

The Globalstar and SBE petitions would impose additional and unwarranted costs on the BRS-1 licensees. Grant of their petitions would also postpone or prevent BRS-1 licensees from deploying broadband services in the band. To ensure the timely deployment of broadband services to the public, the Commission should deny the Globalstar and SBE Petitions for Reconsideration to the extent they demand that BRS-1 licensees generally and Nextel in particular pay the costs of the Commission's involuntary relocation of BRS-1 licensees from the 2150-2156 MHz band.

Respectfully submitted,

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